(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 1 July 2004 (01.07.2004)

PCT

(10) International Publication Number WO 2004/055638 A3

(51) International Patent Classification⁷: G06F 15/16

(21) International Application Number:

PCT/US2003/039547

(22) International Filing Date:

12 December 2003 (12.12.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(**30**) **Priority Data:** 60/433,196

12 December 2002 (12.12.2002) US

- (71) Applicant: FLEXIWORLD TECHNOLOGIES, INC. [US/US]; 3439 N.E. Sandy Blvd #267, Portland, OR 97232 (US)
- (72) Inventor: CHANG, William, Ho; 16900 SE 26th Drive #94, Vancouver, WA 98687 (US).
- (74) Agent: MEININGER, Mark, M.; Ipsolon LLP, 805 SW Broadway #2740, Portland, OR 97205 (US).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,

CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.

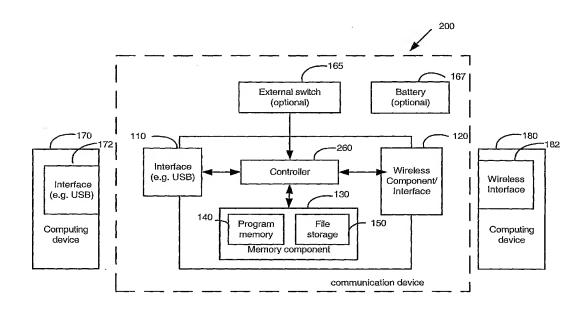
(84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 18 August 2005

[Continued on next page]

(54) Title: WIRELESS COMMUNICATION BETWEEN COMPUTING DEVICES



(57) Abstract: A communication device includes a structural, external interface (e.g., a USB interface) for connecting to a computing device, a wireless interface for making a wireless connection to a second computing device, and a memory or storage component for storing and embedding software for a variety of applications. The communication device provides wireless printing without the need to install a device specific printer driver each time at each new printer and without compromising security or privacy. The communication device also enables transferring of files and data wirelessly from one device to another.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/39547

IPC(7) GoGF 15/16 US CL 709/248.	A CT A	COTTON OF COMPANY OF COMPANY			·
US CL: 709/248 According to Interprational Patent Classification (IPC) or to both patiental classification symbols U.S.: 709/248, 358/1.6, 1.15 Documentation searched classification system followed by classification symbols U.S.: 709/248, 358/1.6, 1.15 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Please See Continuation Sheet C. DOCUMENTS CONSIDERED TO BE RELEVANT Category Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. Y					
According to International Patent Classification (IPC) or to both national classification and IPC PELDS FARCHEED Minimum documentation searched (classification system followed by classification symbols) U.S. 709/248; 558/1.6, 1.15 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched learning to the extent that such documents are included in the fields searched learning to the extent that such documents are included in the fields searched learning to the extent that such documents are included in the fields searched learning to the extent that such documents are included in the fields searched learning to the extent that such documents are included in the fields searched learning to the extent that such documents are included in the fields searched learning to the extent that such documents are included in the fields searched learning that search that such documents are included in the fields searched learning that search that such documents are included in the fields searched learning that search that such documents are included in the fields searched learning that search that such documents are included in the fields searched learning that search to claim No. 2					
### FIELDS SEARCHED Minimum documentation searched classification system followed by classification symbols) U.S.: 709/248; 358/1.6, 1.15 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched u.S.: 709/248; 358/1.6, 1.15 Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Please Sec Continuation Sheet C. DOCUMENTS CONSIDERED TO BE RELEVANT Category * Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. 1, 19, 39, 37, 62, 68-72, and 76 (19, 20, 40, 48), 48, 48, 48, 48, 48, 48, 48, 48, 48, 48			national c	lassification and IDC	
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Please Sec Continuation Sheet C. DOCUMENTS CONSIDERED TO BE RELEVANT Cattegory * Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. 1			HILLY OTHER O	Massification and II C	
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Please Sec Continuation Sheet C. DOCUMENTS CONSIDERED TO BE RELEVANT Cattegory * Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. 1	Minimum de	ocumentation searched (alassification system fallows	d by ologo	ification armhala)	······································
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Please Sec Continuation Sheet C. DOCUMENTS CONSIDERED TO BE RELEVANT Category * Citation of document, with indication, where appropriate, of the relevant passages Y US 6,044(\$\text{MS}\$ A (RAYABHARI) 28 March 2000 (28.03.2000), col. 1, lines 11-62 and col. 3, fine 20 - col. 4, line 28. Y US 6,263,387 B1 (CHRABASZCZ) 17 July 2001 (17.07.2001), col. 5, lines 5-51, col. 7, line 23 - col. 8, line 58 and col. 12, lines 25-42. A US 6,389,159 B2 (GILMAN et al) 14 May 2002 (14.05.2002), see entire document. ** ** ** ** ** ** ** ** **	U.S. : 7	709/248; 358/1.6, 1.15	i by class	ilication symbols)	
C. DOCUMENTS CONSIDERED TO BE RELEVANT Category * Citation of document, with indication, where appropriate, of the relevant passages Y	Documentati	ion searched other than minimum documentation to the	he extent	that such documents are included	in the fields searched
Category * Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. Y US 6,044/6 A (RAYABHARI) 28 March 2000 (28.03.2000), col. 1, lines 11-62 and col. 3, line 20 - col. 4, line 28. Y US 6,263,387 B1 (CHRABASZCZ) 17 July 2001 (17.07.2001), col. 5, lines 5-51, col. 7, line 23 - col. 8, line 58 and col. 12, lines 25-42. A US 6,389,159 B2 (GILMAN et al) 14 May 2002 (14.05.2002), see entire document. * Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance in relevance particular relevance in calaimal water of the considered of the setablish the publication due of another cited to understand the principle or theory understring the international filing date establish the publication of an document referring to an oral disclosure, use, exhibition or other means "P" document referring to an oral disclosure, use, exhibition or other means "P" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date chimed "P" document published prior to the international filing date but later than the priority date chimed "Abxandrica, Virgina 22313-1450 Telephone No. (703) 305-3900	Electronic da Please See C	ata base consulted during the international search (na ontinuation Sheet	me of dat	a base and, where practicable, se	earch terms used)
Category * Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. Y US 6,044/6 A (RAYABHARI) 28 March 2000 (28.03.2000), col. 1, lines 11-62 and col. 3, line 20 - col. 4, line 28. Y US 6,263,387 B1 (CHRABASZCZ) 17 July 2001 (17.07.2001), col. 5, lines 5-51, col. 7, line 23 - col. 8, line 58 and col. 12, lines 25-42. A US 6,389,159 B2 (GILMAN et al) 14 May 2002 (14.05.2002), see entire document. * Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance in relevance particular relevance in calaimal water of the considered of the setablish the publication due of another cited to understand the principle or theory understring the international filing date establish the publication of an document referring to an oral disclosure, use, exhibition or other means "P" document referring to an oral disclosure, use, exhibition or other means "P" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date chimed "P" document published prior to the international filing date but later than the priority date chimed "Abxandrica, Virgina 22313-1450 Telephone No. (703) 305-3900	C. DOC	UMENTS CONSIDERED TO BE RELEVANT			
Y US 6,044M28 (RRAYABHARI) 28 March 2000 (28.03.2000), col. 1, lines 11-62 and col. 3, line 20 - col. 4, line 28 Y US 6,263,387 BI (CHRABASZCZ) 17 July 2001 (17.07.2001), col. 5, lines 5-51, col. 7, lip. 39, 57, 62, 68-72 and 76 A US 6,389,159 B2 (GILMAN et al) 14 May 2002 (14.05.2002), see entire document. ** ** ** ** ** ** ** ** **			appropria	te of the relevant passages	Delevent to aloim No
3, line 20 -col. 4, line 28. Y US 6,263,387 B1 (CHRABASZCZ) 17 July 2001 (17.07.2001), col. 5, lines 5-51, col. 7, lines 5-51, col. 7, line 23 - col. 8, line 58 and col. 12, lines 25-42. US 6,389,159 B2 (GILMAN et al) 14 May 2002 (14.05.2002), see entire document. ** Special categories of cited documents: ** Special categories of cited accuments: ** A document defining the general state of the art which is not considered to be of principle or theory underline the invention cannot be considered now or cannot be considered to involve an inventive sep when the document is combined with one or more observation document is combined to involve an inventive sep when the document is combined with one or more observation document is combined with one or more observation document is combined with one or more observ		US 6.044 8 A (RAYABHARI) 28 March 2000 (2.	8.03.2000)) col lines 1-62 and col	
See patent family annex. Further documents are listed in the continuation of Box C. ** Special categories of clied documents: ** ** ** ** ** ** ** ** **			0.00.200	57, 551. 1, IMOS 11-02 and cor.	
Further documents are listed in the continuation of Box C. * Special categories of cited documents: * Island and the special state of the art which is not considered to be of particular relevance in the capital which the application but cited to understand the principle or theory underlying the invention cannot be castalled to involve an inventive sep when the document is taken alone * """ * document which may throw doubts an priority clain(s) or which is cited to establish the published on or after the international filing date * """ * document which may throw doubts an priority clain(s) or which is cited to establish the published prior to the international filing date but here than the priority date claimed * """ * document published prior to the international filing date but here than the priority date claimed Date of the actual completion of the international search OI July 2005 (01.07.2005) Name and mailing address of the ISA/US Mail Stop PCT, Aux: ISA/US Commissioner of Pasens P.O. Box 1450 Alexandria, Viginà 2231-1450 Alexandria, Viginà 2231-1450 Telephone No. (703) 305-3900	Y		(17.07.20	01), col. 5, lines 5-51, col. 7,	1
Further documents are listed in the continuation of Box C. Special categories of cised documents: "A" Is a conflict with the application but cised to understand the principle or theory underlying the invention Special categories of cised documents: "A" Special categories of cised documents: "A" Is a conflict with the application but cised to understand the principle or theory underlying the invention cannot be considered nowal or cannot be considered to involve an inventive step when the document is combined when one or more such documents; such combination being obvious to a person skilled in the art "A" document published prior to the international filing date but later than the priority date claimed Date of the actual completion of the international search OI July 2005 (OI.07.2005) Name and mailing address of the ISA/US Mail Stop PCT, Am: ISA/US Commissioner of Patena P.O. Box 1450 Alxandria, Viginia 2231-1450 Telephone No. (703) 305-3900					1
** Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed Date of the actual completion of the international search O1 July 2005 (O1.07.2005) Name and mailing address of the ISA/US Mail Stop PCT, Am: ISA/US Commissioner of Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	A	US 6,389,159 B2 (GILMAN et al) 14 May 2002 (1	4.05.200	2), see entire document.	1, 19, 39
** Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed Date of the actual completion of the international search O1 July 2005 (O1.07.2005) Name and mailing address of the ISA/US Mail Stop PCT, Am: ISA/US Commissioner of Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230					
** Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed Date of the actual completion of the international search O1 July 2005 (O1.07.2005) Name and mailing address of the ISA/US Mail Stop PCT, Am: ISA/US Commissioner of Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230					
** Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed Date of the actual completion of the international search O1 July 2005 (O1.07.2005) Name and mailing address of the ISA/US Mail Stop PCT, Am: ISA/US Commissioner of Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230					
** Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed Date of the actual completion of the international search O1 July 2005 (O1.07.2005) Name and mailing address of the ISA/US Mail Stop PCT, Am: ISA/US Commissioner of Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230					
** Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed Date of the actual completion of the international search O1 July 2005 (O1.07.2005) Name and mailing address of the ISA/US Mail Stop PCT, Am: ISA/US Commissioner of Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230					
** Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed Date of the actual completion of the international search O1 July 2005 (O1.07.2005) Name and mailing address of the ISA/US Mail Stop PCT, Am: ISA/US Commissioner of Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230					
"A" document defining the general state of the art which is not considered to be of particular relevance artifer application or patent published on or after the international filing date particular relevance: the claimed invention among the general state of the art which is not considered to be of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive sep when the document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive sep when the document is taken alone document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed Date of the actual completion of the international search O1 July 2005 (01.07.2005) Name and mailing address of the ISA/US Mail Stop PCT, Am: ISA/US Commissioner of Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230					
"E" earlier application or patent published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed Date of the actual completion of the international search O1 July 2005 (01.07.2005) Name and mailing address of the ISA/US Mail Stop PCT, Atta: ISA/US Commissioner of Patents P.O. Box 1450 Alexaudria, Virgina 22313-1450 Facsimile No. (703) 305-3230	"A" document	defining the general state of the art which is not considered to be of	"T"	date and not in conflict with the applica	tion but cited to understand the
document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed Date of the actual completion of the international search O1 July 2005 (01.07.2005) Name and mailing address of the ISA/US Mail Stop PCT, Am: ISA/US Commissioner of Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230 "Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents. such combination being obvious to a person skilled in the arr "E" document member of the same patent family Date of mailing of the international search report Date of mailing of the international search report Jason D. Cardone Jason D. Cardone Telephone No. (703) 305-3900	"E" earlier app		"X"	considered novel or cannot be consider	claimed invention cannot be ed to involve an inventive sep
with one or more other such documents, such combination being obvious to a person skilled in the art document published prior to the international filing date but later than the priority date claimed Date of the actual completion of the international search O1 July 2005 (01.07.2005) Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner of Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	establish tl	which may throw doubts on priority claim(s) or which is cited to the publication date of another citation or other special reason (as	"Y" document of particular relevance: the claimed		
Date of the actual completion of the international search O1 July 2005 (01.07.2005) Name and mailing address of the ISA/US Mail Stop PCT, Atn.: ISA/US Commissioner of Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230 Date of mailing of the international search report Authorized officer Jason D. Cardone Telephone No. (703) 305-3900		referring to an oral disclosure, use, exhibition or other means		with one or more other such documents	s. such combination being
Ol July 2005 (01.07.2005) Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner of Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230 Authorized officer Jason D. Cardone Telephone No. (703) 305-3900	a series product to the mediantician trans and out and that are		"&"	document member of the same patent fa	amily
Name and mailing address of the ISA/US Mail Stop PCT, Atn.: ISA/US Commissioner of Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230 Authorized officer Jason D. Cardone Telephone No. (703) 305-3900	Date of the actual completion of the international search		Date of mailing of the international search report		
Commissioner of Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230 Jason D. Cardone Telephone No. (703) 305-3900					
Commissioner of Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230 Jason D. Cardone Telephone No. (703) 305-3900			Aumori	for media	le Lour
Alexandria, Virgina 22313-1450 Telephone No. (703) 305-3900 Facsimile No. (703) 305-3230	Co	ommissioner of Patents	Jason D. Cardone		
Facsimile No. (703) 305-3230			Telepho	one No. (703) 305 3000	
	Facsimile No.	(703) 305-3230	refebile	nic 110. (703) 303-3900	

. viqu	PCT/US03/39547	
INTERNATIONAL SEARCH REPORT		
· !		
ı		
· :		
i		
1		
1		
Continuation of B. FIELDS SEARCHED Item 3:		
EAST (USPAT, PGPUB, EPO, JPO, DERWENT) search terms: Bluetooth, plug/play, print, digital camera, automatic, launch		
todaen terms. Biactoon, piag piay, print, digital camera, automatic, launch		
		İ
· ·		
		į